

Application No. 10/697,558
Reply dated August 1, 2005
Response to Office Action dated March 30, 2005

AMENDMENTS TO THE SPECIFICATION:

Please amend the paragraph bridging pages 11 and 12 as follows:

Referring to FIG. 3, reference numeral 30 is a developing chamber of the developing device proper 2, 31 is an upright wall for separating the transfer passages of the agitation/transfer means 6, 7 in the developing chamber 31. The upright wall 31 is formed to be shorter in length than that of the developing chamber in longitudinal direction to provide a clearance between each side end of the developing chamber 30 and each side end of the upright wall ~~[[31]]~~ 30. Therefore, the toner transferred by the agitation/transfer means 6, 7 passes through the clearances between both side ends of the developing chamber 30 and upright wall 31 to be circulated. Reference numeral 32 is a driving source for driving the developing roller 8 and the agitation/transfer means 6, 7, 33 is a gear for transmitting the driving force of the driving source 32 to the agitation/transfer means 6 and 7, 34 are arrows showing the rotation direction of the agitation/transfer means 6, 7, 35 and 36 each is a spiral vane member of the agitation/transfer means 7 and 6 respectively, and 37 are arrows showing the transfer directions of toner. In FIG. 4, reference numeral 38 is a scraper, 39 and 40 indicate the portions of the vane member of the agitation/transfer means 6 reduced in transferring ability in a zone downstream from the toner receiving opening 5. The reduction in transferring ability is achieved by reducing the pitch and diameter of the spiral vane member 36 of said portion, or reducing only the pitch or only the diameter thereof, or cutting-out a part thereof, or omitting the spiral vane of said portion. Although a so-called one-component developer composed of only toner or a so-called two-component developer composed of toner and carrier particles may be used in the developing apparatus in an image forming apparatus of the present invention, the developer will be called simply as toner in the following explanation.

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Please amend the paragraph bridging pages 13 and 14 as follows:

The driving force of the driving source 32 for driving the developing roller 8 is transmitted through the gear not shown in the drawings to the transfer means 10, 11 in the toner container 3 as a toner accommodating means shown in FIG. 1, and the toner in the toner container 3 is circulated therein while being transferred by the transfer means 10 to the transfer means 11 side and vice versa. On the other hand, in the developing device proper 2, the driving force of the driving source 32 is transmitted via the gear 33 to the agitation/transfer means 6, 7, and the toner is transferred while being agitated in the developing chamber 30 to the developing roller ~~8(not shown in FIG. 3)~~ 8 (not shown in Fig. 3). The toner is carried on the developing roller 8 to be consumed to develop the latent image on the photo conductor not shown in the drawings. When the amount of toner in the developing chamber decreases by said consumption and the amount of toner between the agitation/transfer means 6 and the supply opening of the toner container 3 decreases, the toner in the toner container 3 falls onto the agitation/transfer means 6 from the toner receiving opening 5 provided in the developing device proper 2 through the guide member 4.

Please amend the paragraph bridging pages 17 and 18 as follows:

The guide member 20 of the second embodiment is formed such that the bottom edge part 21 runs along the rotational circumference of the vane member 36 of the agitation/transfer means 6 with a clearance of, for example, 1 ~ 2 mm or so on when the toner container 3 is mounted to the developing device proper 2, and a guide face of the guide member 20 is inclined by an angle of, for example, ~~50 to~~ 50 to 70 degrees, preferably 60 degrees to be broaden toward end, similarly as the case of the first embodiment shown in FIG. 1.

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Please amend the first full paragraph on page 18 as follows:

As described before, the driving force of the driving source 32 for driving the developing roller 8 is transmitted through the gear not shown in the drawings to the transfer means 10, 11 in the toner container 3 as a toner accommodating means shown in FIG. 1, and the toner in the toner container 3 is sent to the transfer means 11 side by the transfer means 10 while being circulated therein. In the developing device proper 2, the driving force of the driving source 32 is transmitted via the gear 33 to the agitation/transfer means 6 [[and7]] and 7, the toner is sent while being agitated in the developing chamber 30 to the developing roller 8. This toner is carried on the developing roller 8 to be consumed to develop the latent image on the photo conductor not shown in the drawings. When the amount of toner in the developing chamber decreases due to said consumption, the toner in the toner container 3 falls from the toner supply opening 15 onto the agitation/transfer means 6 through the guide member 20.